

CLAIMS

1. A curable resinous composition comprising:
 - 5 (A) an epoxy resin;
 - (B) at least one carboxylic acid anhydride;
 - (C) at least one inorganic filler wherein at least 80% of the particles of the filler have a particle diameter size of from between about 10 to about 40 microns; and
 - (D) at least one inorganic filler wherein at least 80% of the particles of the
- 10 filler have a particle diameter size greater than about 90 microns.
2. The curable resinous composition of Claim 1, wherein the at least one inorganic filler of (C) is sand.
- 15 3. The curable resinous composition of Claim 1, wherein the at least one inorganic filler of (D) is granite chips.
4. The curable resinous composition of Claim 1, wherein the at least one carboxylic acid anhydride is selected from methyltetrahydrophthalic anhydride, hexahydrophthalic anhydride and methylhexahydrophthalic anhydride.
- 20 5. The curable resinous composition of Claim 4, wherein the at least one carboxylic acid anhydride is a mixture of two or more anhydrides selected from methyltetrahydrophthalic anhydride, hexahydrophthalic anhydride and methylhexahydrophthalic anhydride.
- 25 6. The curable resinous composition of Claim 5, wherein the at least one carboxylic acid anhydride is a mixture of from about 45-55% by weight hexahydrophthalic anhydride and 55-45% by weight methylhexahydrophthalic anhydride.

7. The curable resinous composition of Claim 1, wherein the at least one carboxylic acid anhydride is an anhydride of phthalic acid, isophthalic acid, pyromellitic acid and benzophenone-3,3',4,4'-tetracarboxylic acid.

5 8. The curable resinous composition of Claim 7, wherein the at least one carboxylic acid anhydride is phthalic anhydride.

9. The curable resinous composition of Claim 8, wherein the phthalic anhydride is flake phthalic anhydride.

10

10. The curable resinous composition of Claim 1, wherein the at least one inorganic filler of (C) is a naturally occurring inorganic material.

15

11. The curable resinous composition of Claim 10, wherein the naturally occurring inorganic material is selected from silica stone, silica sand, diatomaceous earth, kaolin, halloysite, montmorillonite, bentonite, zeolite, phosphorite, diaspore, gibbsite, bauxite, Japanese acid clay, porcelain stone, pyrophyllite rock, feldspars, limestone, wollastonite, gypsum, dolomite, magnesite and talc.

20

12. The curable resinous composition of Claim 11, wherein the naturally occurring inorganic material is sand.

13. The curable resinous composition of Claim 1, wherein the at least one inorganic filler of (D) is sand.

25

14. The curable resinous composition of Claim 1, wherein the at least one inorganic filler of (D) is granite chips.

30

15. The curable resinous composition of Claim 13, wherein the at least one inorganic filler of (D) further comprises granite chips.

16. The curable resinous composition of Claim 15, wherein the weight ratio of granite chips:sand in inorganic filler (D) is between from about 2:1 to about 1:1.

17. The curable resinous composition of Claim 15, wherein the at least one inorganic 5 filler of (C) is sand and further wherein the weight ratio of inorganic filler sand (C):inorganic filler sand (D):granite chips is approximately 1:1:2.

18. A curable resinous composition comprising:

10 (A) an epoxy resin;
(B) at least one carboxylic acid anhydride;
(C) at least one naturally occurring inorganic material; and
(D) granite chips.

19. The curable resinous composition of Claim 18, wherein the at least one carboxylic 15 acid anhydride is selected from an anhydride of phthalic acid, isophthalic acid, pyromellitic acid, benzophenone-3,3',4,4'-tetracarboxylic acid, methyltetrahydrophthalic acid, hexahydrophthalic acid and methylhexahydrophthalic acid.

20. The curable resinous composition of Claim 19, wherein the at least one carboxylic 20 acid anhydride is the combination of (i.) an aromatic polycarboxylic acid selected from an anhydride of phthalic acid, isophthalic acid, pyromellitic acid and benzophenone-3,3',4,4'-tetracarboxylic acid; and (ii.) at least one alicyclic anhydride selected from methyltetrahydrophthalic anhydride, hexahydrophthalic anhydride and methylhexahydrophthalic anhydride; anhydride.

25 21. The curable resinous composition of Claim 20, wherein the at least one alicyclic anhydride is a mixture of from about 45-55% by weight hexahydrophthalic anhydride and 55-45% by weight methylhexahydrophthalic anhydride.

30 22. The curable resinous composition of Claim 18, wherein the at least one carboxylic acid anhydride is flake phthalic anhydride.

23. The curable resinous composition of Claim 18, wherein the at least one naturally occurring inorganic material is selected from silica stone, silica sand, diatomaceous earth, kaolin, halloysite, montmorillonite, bentonite, zeolite, phosphorite, diaspore, gibbsite, 5 bauxite, Japanese acid clay, porcelain stone, pyrophyllite rock, feldspars, limestone, wollastonite, gypsum, dolomite, magnesite and talc.

24. The curable resinous composition of Claim 23, wherein the naturally occurring inorganic material is sand.

10

25. The curable resinous composition of Claim 24, wherein at least 80% of the sand particles have a particle diameter size between from about 10 to about 40 microns.

15

26. The curable resinous composition of Claim 25, further comprising at least one inorganic filler wherein at least 80% of the particles of the filler have a particle diameter size between from about 90 to about 150 microns.

27. A curable resinous composition comprising:

20 (A) an epoxy resin;
20 (B) phthalic acid anhydride;
25 (C) a mixture of at least two anhydrides selected from methyltetrahydrophthalic anhydride, hexahydrophthalic anhydride and methylhexahydrophthalic anhydride;
25 (D) sand; and
(E) granite chips.

28. The curable resinous composition of Claim 21, wherein at least 80% of the sand particles of (D) have a mean particle size between from about 10 to about 40 microns.

30

29. A curable resinous composition which comprises:

(A) an epoxy resin;

- (B) at least one anhydride of an aromatic polycarboxylic acid selected from an anhydride of phthalic acid, isophthalic acid, pyromellitic acid and benzophenone-3,3',4,4'-tetracarboxylic acid;
- (C) at least one alicyclic anhydride selected from methyltetrahydrophthalic anhydride, hexahydrophthalic anhydride and methylhexahydrophthalic anhydride;
- 5 (D) sand, wherein at least 80% of the sand particles have a particle diameter size of from between about 10 to about 40 microns; and
- (E) at least one inorganic filler, wherein at least 80% of the particles of the inorganic filler have a particle diameter size greater than about 90 microns.

10

- 30. The curable resinous composition of Claim 29, wherein the at least one inorganic filler is sand or granite chips.
- 15. The curable resinous composition of Claim 29, wherein the at least one inorganic filler is sand and granite chips.
- 32. A scratch resistant countertop comprising the hardened composition of Claim 1.
- 20. The scratch resistant countertop of Claim 1, wherein the resinous composition is hardened in the presence of a heat activated catalyst.
- 34. A scratch resistant countertop comprising the hardened composition of Claim 18.
- 25. The scratch resistant countertop of Claim 34, wherein the resinous composition is hardened in the presence of a heat activated catalyst.

30